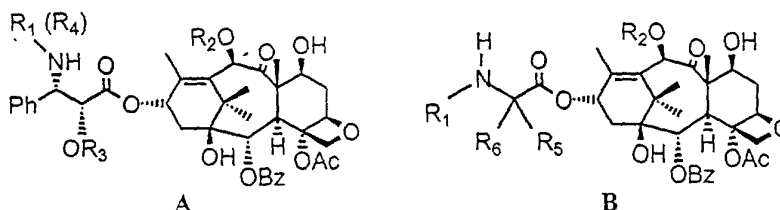


# CLAIMS

We claim:

1. Anti-neoplastic and/or anti-leukemic effective compound selected from the formulae A and B:



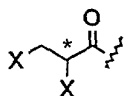
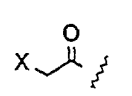
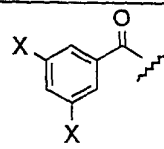
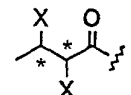
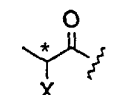
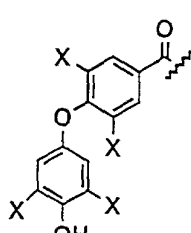
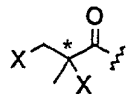
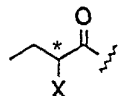
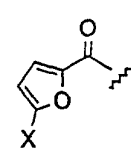
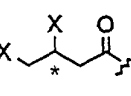
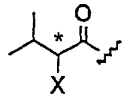
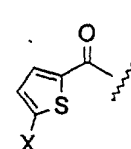
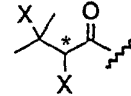
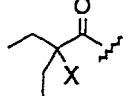
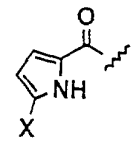
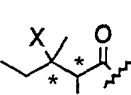
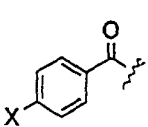
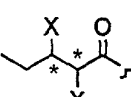
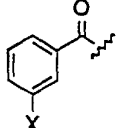
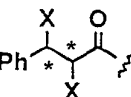
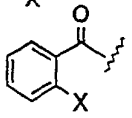
wherein

for general formula A: wherein R<sub>1</sub> is mono or dihalogenated acyl group, aroyl group (Table 1), alkyloxy-carbonyl group or aryloxy-carbonyl group (Table 2) and R<sub>3</sub> is hydrogen or halogenated group, and R<sub>2</sub> is hydrogen or acetyl groups; wherein R<sub>4</sub> is PhCO or MeCOCO or CH<sub>3</sub>CH=C(CH<sub>3</sub>)CH=(CH<sub>3</sub>)CO, R<sub>3</sub> is a halogenated group (Tables 1 and 2);

for general formula B: wherein R<sub>1</sub> is mono or dihalogenated acyl group or aroyl group (Table 1), alkyloxy-carbonyl group or aryloxy-carbonyl group (Table 2) and R<sub>2</sub> is hydrogen or acetyl group, and R<sub>5</sub> is any group from Table 3; R<sub>6</sub> is H or Me;

and wherein groups of Tables 1, 2 and 3 are selected from

Table 1 Structures of Halogenated Acyl and Aroyl Groups

|         |   |          |  |          |   |
|---------|---|----------|--|----------|---|
| Group 1 |    | Group 9  |    | Group 17 |    |
| Group 2 |    | Group 10 |    | Group 18 |   |
| Group 3 |  | Group 11 |  | Group 19 |  |
| Group 4 |  | Group 12 |  | Group 20 |  |
| Group 5 |  | Group 13 |  | Group 21 |  |
| Group 6 |  | Group 14 |  |          |   |
| Group 7 |  | Group 15 |  |          |   |
| Group 8 |  | Group 16 |  |          |   |

X: halogen (Cl or Br or I or F)

Table 1 (Contd)

|          |  |          |  |          |  |
|----------|--|----------|--|----------|--|
| Group 22 |  | Group 29 |  | Group 35 |  |
| Group 23 |  | Group 30 |  | Group 36 |  |
| Group 24 |  | Group 31 |  | Group 37 |  |
| Group 25 |  | Group 32 |  | Group 38 |  |
| Group 26 |  | Group 33 |  | Group 39 |  |
| Group 27 |  | Group 34 |  | Group 40 |  |
| Group 28 |  |          |  |          |  |

X: halogen (Cl or Br or I or F)  
X<sub>1</sub>: one type of halogen  
X<sub>2</sub>: other type of halogen

|          |  |          |  |          |  |
|----------|--|----------|--|----------|--|
| Group 41 |  | Group 48 |  | Group 55 |  |
| Group 42 |  | Group 49 |  | Group 56 |  |
| Group 43 |  | Group 50 |  | Group 57 |  |
| Group 44 |  | Group 51 |  | Group 58 |  |
| Group 45 |  | Group 52 |  | Group 59 |  |
| Group 46 |  | Group 53 |  | Group 60 |  |
| Group 47 |  | Group 54 |  | Group 61 |  |

X: halogen (Cl or Br or I or F)  
 $X_1$ : one type of halogen  
 $X_2$ : other type of halogen

Table 2 (Contd)

|          |  |          |  |          |  |
|----------|--|----------|--|----------|--|
| Group 62 |  | Group 68 |  | Group 74 |  |
| Group 63 |  | Group 69 |  | Group 75 |  |
| Group 64 |  | Group 70 |  | Group 76 |  |
| Group 65 |  | Group 71 |  | Group 77 |  |
| Group 66 |  | Group 72 |  | Group 78 |  |
| Group 67 |  | Group 73 |  | Group 79 |  |


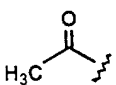

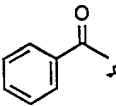
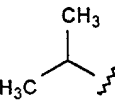
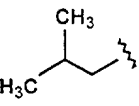
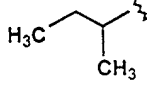
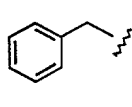
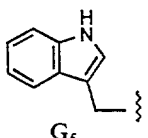
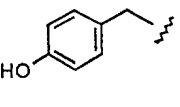
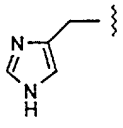
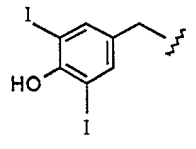
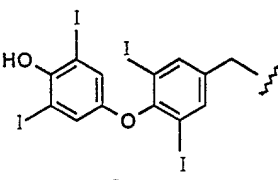

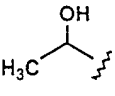
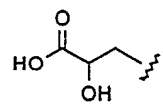
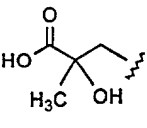
X: halogen (Cl or Br or I or F)  
X<sub>1</sub>: one type of halogen  
X<sub>2</sub>: other type of halogen

Table 2 (Contd)

|          |  |          |  |          |  |
|----------|--|----------|--|----------|--|
| Group 80 |  | Group 86 |  | Group 91 |  |
| Group 81 |  | Group 87 |  | Group 92 |  |
| Group 82 |  | Group 88 |  | Group 93 |  |
| Group 83 |  | Group 89 |  | Group 94 |  |
| Group 84 |  | Group 90 |  | Group 95 |  |
| Group 85 |  |          |  |          |  |

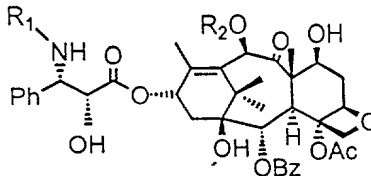
X: halogen (Cl or Br or I or F)

**Table 3.** Group Structures of Amino Acids and Their Codes Used in This Patent

|   |  |   |   |   |   |
|---|--|---|---|---|---|
|    |     |      |     |  |  |
| Me  | Ac   | Ph  | Bz  | G <sub>1</sub>  | G <sub>2</sub>  |
|    |     |      |    |  |   |
| G <sub>3</sub>  | G <sub>4</sub>   | G <sub>5</sub>  | G <sub>6</sub>  | G <sub>7</sub>  |   |
|  |  |  |  |   |   |
| G <sub>8</sub>  | G <sub>9</sub>   | G <sub>10</sub>   | G <sub>11</sub>   |   |   |
|  |   |   |   |   |   |
| G <sub>12</sub>   | G <sub>13</sub>  |   |   |   |   |

2. A compound of claim 1 of the formula:

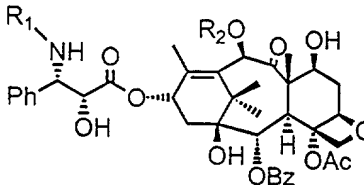
## TYPE I



wherein R<sub>1</sub> is a group selected from Table 1 (groups 1 to 40);  
and R<sub>2</sub> is H or Ac;

3. A compound of claim 1 of the formula:

## TYPE II

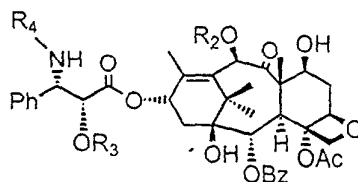


wherein R<sub>1</sub> is a group selected from Table 2 (groups 41 to 95);  
R<sub>2</sub> is H or Ac;



4. A compound of claim 1 of the formula:

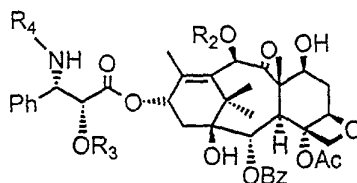
TYPE III



wherein  $R_3$  is a group selected from Table 1 (groups 1 to 40);  
and  $R_2$  is H or Ac, and  $R_4$  is PhCO or  $\text{Me}_3\text{COCO}$  or  $\text{CH}_3\text{CH}=\text{C}(\text{CH}_3)\text{CO}$ ;

5. A compound of claim 1 of the formula:

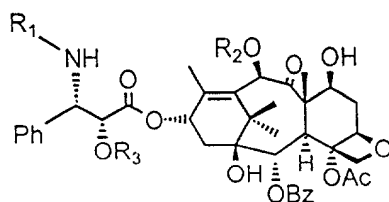
TYPE IV



wherein  $R_3$  is a group selected from Table 2, (groups 41 to 95),  
 $R_2$  is Ac or H, and  $R_4$  is PhCO or  $\text{Me}_3\text{COCO}$  or  $\text{CH}_3\text{CH}=\text{C}(\text{CH}_3)\text{CO}$ ;

6. A compound of claim 1 of the formula:

TYPE V



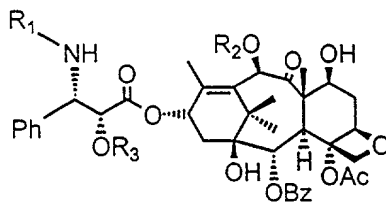
wherein R<sub>1</sub> is a group selected from Table 1 (groups 1 to 40);

R<sub>2</sub> is H or Ac;

R<sub>3</sub> is a group selected from Table 2 (groups 41 to 95);

7. A compound of claim 1 of the formula:

TYPE VI



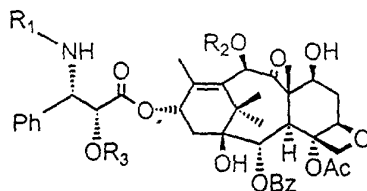
wherein R<sub>1</sub> is a group selected from Table 2 (groups 41 to 95);

R<sub>2</sub> is H or Ac;

R<sub>3</sub> is a group selected from Table 1 (groups 1 to 40);

8. A compound of claim 1 of the formula:

TYPE VII



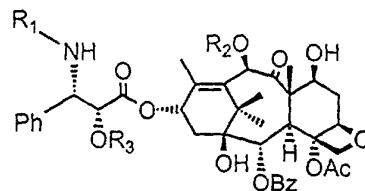
wherein R<sub>1</sub> is a group selected from Table 1 (groups 1 to 40);

R<sub>2</sub> is H or Ac;

R<sub>3</sub> is a group selected from Table 1 (groups 1 to 40);

9. A compound of claim 1 of the formula:

TYPE VIII



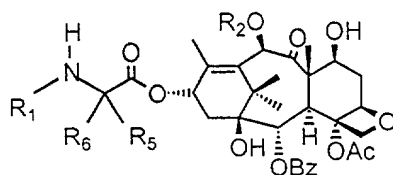
wherein R<sub>1</sub> is a group from Table 2 (groups 41 to 95);

R<sub>2</sub> is H or Ac;

R<sub>3</sub> is a group selected from Table 2 (groups 41 to 95);

10. A compound of claim 1 of the formula:

TYPE IX



wherein  $R_1$  is a group selected from Table 1 (groups 1 to 40);

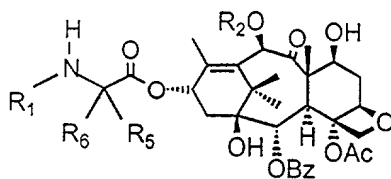
$R_2$  is H or Ac;

$R_5$  is H or Me or  $G_1$  or  $G_2$  or  $G_3$  or  $G_4$  or  $G_5$  or  $G_6$  or  $G_7$  or  $G_8$  or  $G_9$  or  $G_{11}$  or  $G_{12}$  or  $G_{13}$ ;

$R_6$  is H, only in the case when  $R_5$  is  $G_{10}$  the group  $R_6$  is H or Me;

11. A compound of claim 1 of the formula:

TYPE X



wherein  $R_1$  is a group selected from Table 2 (groups 55 to 95);

$R_2$  is H or Ac;

$R_5$  is H or Me or  $G_1$  or  $G_2$  or  $G_3$  or  $G_4$  or  $G_5$  or  $G_6$  or  $G_7$  or  $G_8$  or  $G_9$  or  $G_{11}$  or  $G_{12}$  or  $G_{13}$ ;

$R_6$  is H, only in the case when  $R_5$  is  $G_{10}$  the group  $R_6$  is H or Me;

12. A pharmaceutical formulation which comprises as an active ingredient a compound of claim 1 or a pharmaceutically acceptable salt thereof.

13. A pharmaceutical formulation which comprises as an active ingredient a compound of claim 2 or a pharmaceutically acceptable salt thereof.

14. A pharmaceutical formulation which comprises as an active ingredient a compound of claim 3 or a pharmaceutically acceptable salt thereof.

15. A pharmaceutical formulation which comprises as an active ingredient a compound of claim 4 or a pharmaceutically acceptable salt thereof.

16. A pharmaceutical formulation which comprises as an active ingredient a compound of claim 5 or a pharmaceutically acceptable salt thereof.

17. A pharmaceutical formulation which comprises as an active ingredient a compound of claim 6 or a pharmaceutically acceptable salt thereof.

18. A pharmaceutical formulation which comprises as an active ingredient a compound of claim 7 or a pharmaceutically acceptable salt thereof.

19. A pharmaceutical formulation which comprises as an active ingredient a compound of claim 8 or a pharmaceutically acceptable salt thereof.

20. A pharmaceutical formulation which comprises as an active ingredient a compound of claim 9 or a pharmaceutically acceptable salt thereof.

21. A pharmaceutical formulation which comprises as an active ingredient a compound of claim 10 or a pharmaceutically acceptable salt thereof.

093804.08301  
T0E380.108E660

22. A pharmaceutical formulation which comprises as an active ingredient a compound of claim 11 or a pharmaceutically acceptable salt thereof.

23. A method for treating humans in need thereof comprising administering to said humans an anti-cancer or anti-leukemic effective amount of the compound of claim 1.

24. A method for treating humans in need thereof comprising administering to said humans an anti-cancer or anti-leukemic effective amount of the compound of claim 2.

25. A method for treating humans in need thereof comprising administering to said humans an anti-cancer or anti-leukemic effective amount of the compound of claim 3.

26. A method for treating humans in need thereof comprising administering to said humans an anti-cancer or anti-leukemic effective amount of the compound of claim 4.

27. A method for treating humans in need thereof comprising administering to said humans an anti-cancer or anti-leukemic effective amount of the compound of claim 5.

28. A method for treating humans in need thereof comprising administering to said humans an anti-cancer or anti-leukemic effective amount of the compound of claim 6.

29. A method for treating humans in need thereof comprising administering to said humans an anti-cancer or anti-leukemic effective amount of the compound of claim 7.

30. A method for treating humans in need thereof comprising administering to said humans an anti-cancer or anti-leukemic effective amount of the compound of claim 8.

31. A method for treating humans in need thereof comprising administering to said humans an anti-cancer or anti-leukemic effective amount of the compound of claim 9.

09938041.083301

33. A method for treating humans in need thereof comprising administering to said humans an anti-cancer or anti-leukemic effective amount of the compound of claim 11.

33. A method for treating humans in need thereof comprising administering to said humans an anti-cancer or anti-leukemic effective amount of the compound of claim 11.